1. A method for aligning the optical elements which couples and focuses a diode laser beam from a laser diode into an optical fiber, the method comprising the steps of:

determining a first set of angular and spatial tolerances applicable to the focused laser beam entering the fiber,

determining a second set of angular and spatial tolerances for collimating the laser beam by placing a lens in the laser diode beam such that a collimated beam is produced and aligned to the axis of the fiber within the second set of angular and spatial tolerances,

determining a third set of angular and spatial tolerances for focusing the laser beam onto the axis of the optical fiber within the third spatial tolerance by placing a strong lens within the collimated beam within the third spatial tolerance, and

steering the laser beam onto the axis of the optical fiber within first spatial tolerance by placing a weak lens within the collimated beam within the third spatial tolerance.

2. The method as defined in claim 1 wherein the third spatial tolerance is at least ten times larger than the first spatial tolerance.

3. The method as defined in claim 2 where the first spatial tolerance is 0.1 micron and the third spatial tolerance is 1.0 microns.

4. The method as defined in claim 2 where the first spatial tolerance is 0.1 micron and the second spatial tolerance is 10 microns.

5. The method as defined in claim 1 wherein the second spatial tolerance is at least one hundred times larger than the first spatial tolerance.

6. The method as defined in claim 1 further comprising the steps of:

maximizing the energy output of the fiber to determine when the positioning, collimation, and focusing is optimum.

7. The method as defined in claim 1 wherein the focal length of the strong lens is about 5 mm in conjunction with an axial tolerance of about 50 micrometers for the laser beam incident upon the strong lens with respect to the optical fiber.

8. The method as defined in claim 1 further comprising the steps of:

placing a collimating lens axially aligned in parallel with the axis of the laser diode, wherein the collimating lens performs the step of collimating the laser beam in parallel with the axis of the laser diode and the axis of fiber, and,

prior to placing the weak lens,

maximizing the output from the fiber by moving the strong lens in a direction normal to the optical axis and by moving the fiber end along the optical axis, and after placing the weak lens, maximizing the output of the fiber by moving the weak lens in a direction normal to the optical axis and by moving the fiber end along the optical axis.

9. A system for aligning the optical elements which couples and focuses a diode laser beam from a laser diode into an optical fiber, the system comprising:

a first set of angular and spatial tolerances applicable to the laser beam entering the fiber,

means for collimating the laser beam to the axis of the fiber within the second spatial and angular tolerance,

a second set of angular and spatial tolerances for positioning the collimated laser beam to the axis of the fiber,

a third set of angular and spatial tolerances and a strong lens placed within the collimated beam that focuses the collimated laser beam onto the axis of the optical fiber within the third spatial tolerance, and

a weak lens placed, within the third spatial tolerance, within the collimated beam, that steers the collimated laser beam onto the axis of the optical fiber within the first spatial tolerance.

10. The system as defined in claim 9 wherein the third spatial tolerance is at least ten times larger than the first spatial tolerance.

11. The method as defined in claim 10 where the first spatial tolerance is 0.1 micron and the third spatial tolerance is 1.0 microns.

12. The system as defined in claim 10 where the first spatial tolerance is 0.1 micron and the second spatial tolerance is 10 microns.

13. The system as defined in claim 9 wherein the second spatial tolerance is at least one hundred times larger than the first spatial tolerance.

14. The system as defined in claim 9 further comprising:

means for maximizing the energy output of the fiber to determine when the positioning, collimation, and focusing is optimum.

15. The system as defined in claim 9 wherein the focal length of the strong lens is about 5 mm in conjunction with an axial tolerance of about 50 micrometers for the laser beam incident upon the strong lens with respect to the optical fiber.

16. The system as defined in claim 9 further comprising:

a collimating lens placed axially aligned in parallel with the axis of the laser diode that collimates the laser beam in parallel with the axis of the laser diode and the axis of the fiber, and,

with the weak lens removed, means for measuring and maximizing the output from the fiber by moving the strong lens in a direction normal to the optical axis and by moving the fiber end along the optical axis, and

after replacing the weak lens, means for measuring and maximizing the output of the fiber by moving the weak lens in a direction normal to the optical axis and by moving the fiber end along the optical axis.

17. A method for aligning the optical elements which couples and focuses a diode laser beam from a laser diode into an optical fiber, the method comprising the steps of:

determining a first set of angular and spatial tolerances applicable to the focused laser beam entering the fiber,

collimating and focusing the laser beam to be aligned with and onto the axis of the optical fiber within a third set of angular and spatial tolerances by placing a colli-mating and a strong lens in the laser beam, and

steering the laser beam onto the axis of the optical fiber within first spatial toler-ance by placing a weak lens within the collimated beam within the third spatial tolerance